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Biotechnology Notes

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Biotechnology Notes, a compilation of agency activities, news events, and upcoming meetings, is prepared for members of the U.S. Department of Agriculture's (USDA) Committee on Biotechnology in Agriculture (CBA) by USDA's Office of Agricultural Biotechnology (OAB).

INSIDE USDA

PROPOSED GUIDELINES PUBLISHED; PUBLIC INVITED TO COMMENT

"A major step forward for biotechnology research" is how Charles Hess, USDA Assistant Secretary for Science and Education, describes the 'Proposed USDA Guidelines for Research Involving the Planned Introduction into the Environment of Organisms with Deliberately Modified Hereditary Traits,' that were published in the February 1 issue of the Federal Register, Part 3. "They provide scientific guidance to the research community while helping to assure the public that this technology is used in a safe, responsible manner."

The public has until April 2 to submit written comments, which should be sent to the Office of Agricultural Biotechnology (OAB). According to OAB Director, Alvin Young, "The guidelines will help researchers to design safe field trials as they work with the biosafety committees of their affiliated institutions." He noted that the OAB prepared the guidelines with primary scientific input coming from USDA's Agricultural Biotechnology Research Advisory Committee (ABRAC).

To obtain a copy of the proposed guidelines, call the OAB at either 202-447-9165 or 703-235-4419. The reference department of most public libraries also maintain current issues of the Federal Register.

IT'S A BOY! ... OOPS ... I MEAN A GIRL!

Until now the only way poultry producers could distinguish newly-hatched egg layers from males was by manually inspecting each chick and then separating them out. This costly process, possible only by highly trained individuals, may soon become a thing of the past, thanks to a technique called autosexing, which is a quick (automatic) way of identifying the gender of chickens, and the research effort of John Brumbaugh at the University of Nebraska.

The goal of Brumbaugh's research is to produce a system which will flag all male chicks with dark markings. In early experiments,

dark markings have been produced in White Leghorn chickens. First the mouse gene for tyrosinase, which controls pigmentation, was isolated and through recombinant DNA technology the gene was spliced into a viral vector. The virus was used to carry the tyrosinase gene into the embryos of chicks and was then expressed in the form of dark markings.

Brumbaugh said the project is a collaborative effort of his laboratory, which is working on the expression and monitoring of tyrosinase in cultured cells, Steve Hughes' lab at the Frederick Cancer Research facility in Frederick, MD, which is focusing on the viral vector constructions, and Don Salter's lab at Michigan State University, which is concentrating on injecting the genetically engineered viruses into early chick embryos.

Brumbaugh's research was supported in part by USDA's Cooperative State Research Service, Competitive Research Grants Office.

CALLING ALL SCIENTISTS

USDA is looking for 100 research associates to work with veteran scientists for up to 2 years at laboratories operated across the country by USDA's Agricultural Research Service (ARS). Applicants need a doctorate but less than 4 years of postdoctoral experience. Each will work on one of 100 projects selected from among 445 proposals submitted by ARS scientists. A few of the areas of research include food safety, global change, biological control of crop pests, and genetic engineering of plants. The base salary is \$31,116-\$37,294. To receive an application and descriptions of positions, call Nancy L. Bakes at 301-344-2796.

BIOTECH CLOSING IN ON TRICHINOSIS

Scientists at USDA's ARS in Beltsville, MD have patented a monoclonal antibody that detects three proteins specific for Trichinella spiralis, the microscopic parasite that causes trichinosis in people and animals. The new diagnostic test is more efficient and less costly than current methods used to detect the parasite, and it could be used to develop an animal vaccine.

Trichinosis develops when people or animals consume raw or insufficiently cooked pork or other meat containing the encysted parasite. According to recent studies, only about one-tenth of one percent of all pork carcasses in the United States are infected. Although proper cooking will kill the parasite, still about 100,000 people become infected every year.

Anyone interested in learning more about this research, or how to become a licensee for the monoclonal antibody, should contact Phillip O'Berry at ARS's National Soil Tilth Laboratory in Ames, Iowa at 515-294-7762.

ABRAC MINUTES NOW AVAILABLE

The minutes of two ABRAC meetings, one held April 23-24, 1990, and the other June 21-22, 1990, are now off press. Anyone wishing copies may call the OAB at 703-235-4419. The June 21-22 meeting featured a discussion of criteria for dealing with non-transgenic animals from transgenic animal experiments. The April 23-24 meeting focused in large part on the scope of oversight.

THE WAYS AND MEANS OF BIOTECH FUNDING

"Resource Allocation to State Agbiotech Research: 1982-1988" is the topic of an article by Charles Hess appearing in the January 1991 issue of Bio/Technology magazine.

Hess reports on the results of a survey of the amount of funding that was available to support biotech research programs. The Committee on Biotechnology of the National Association of State Universities and Land Grant Colleges surveyed the State Agricultural Experiment Stations for the period from 1982 to 1988. The results showed that the number of research scientists during this period stayed relatively constant, but there was a "significant" shift of positions into biotechnology research. The survey reported that the reallocation of funds to biotech, although seen as a positive step, may have a negative impact on other research areas such as plant and animal breeding.

CALL FOR PAPERS

An international symposium, "Applications of Biotechnology to Tree Culture, Protection, and Utilization," will be held August 5-8, 1991 in Columbus, Ohio. It is being sponsored by OAB and the Forest Service to highlight recent contributions of biotechnology to the field of forestry. Sessions will cover genetics/physiology, biological control of diseases and insect pests, bioprocessing, techniques of tree culture and protection, techniques in tree utilization, public policy issues, and commercial applications. In addition, the format will offer poster presentations. The deadline for submission of poster abstracts is May 1. For more information, call Rhonda Cobourn at 614-369-4476. The FAX number is 614-363-1437.

NEWS AROUND THE COUNTRY (AND THE WORLD)

ITALY LAYING FOUNDATION FOR FIELD TESTING

Member nations of the European Community (EC) have until December 1991 to implement a directive concerning the deliberate release of

genetically modified organisms. In order to comply with the directive, Italy is now considering drafting laws and regulations for field testing. According to Maryln Cordle, OAB senior regulatory specialist who just returned from Italy, the Government is reviewing a proposal which would establish regulations and identify applicable international databases.

In addition to meeting with senior government officials in Rome, Cordle also attended a meeting in Padua on risk assessment. Along with other U.S. observers from USDA's Animal and Plant Health Inspection Service (APHIS), the Environmental Protection Agency, and the Food and Drug Administration, Cordle reviewed the final results of a 3-year collaborative project on risk assessment that was funded by the EC. She also exchanged biosafety information on topics of mutual interest, such as transgenic fish.

USUALLY TOO MANY COOKS SPOIL THE POT

But not so this time. Meeting in Copenhagen, Denmark, December 3-7, 1990, more than 70 scientists and regulatory experts from around the world put together a document entitled "Monitoring of Genetically Modified Organisms Released Into the Environment." This was the first time the Organization for Economic Cooperation and Development (OECD) attempted to draft a document during a workshop, rather than relying on a member state to prepare a draft for presentation to the OECD.

The draft contains sections on general principles, methods for plants, and methods for microorganisms. It will be circulated to member countries for comment.

SCIENTISTS TELL THEIR SIDE

In an article published in Science, Technology and Human Values, author Isaac Rabino of the State University of New York, Empire State College, gives the results of a survey on the attitudes of scientists to public pressures. Those surveyed were primarily engaged in recombinant DNA work. Eight-four percent of the 430 who responded mentioned the need for public education and more than half said scientists themselves should help in the effort. Sixty-three percent said current safety mechanisms are adequate, while 26 percent said such oversight is "overly stringent." While 45 percent say current federal procedures for obtaining permission to conduct rDNA research are "too confused," the remaining 55 percent said procedures are "reasonably clear." Thirty-one percent say controversy and litigation have helped regulatory agencies do a better job, and 60 percent agree that litigation by activists has made scientists more socially responsible.

CASTing A NEW LOOK ON TECHNOLOGY

A December 1990 report issued by CAST (Council for Agricultural Science and Technology) explores issues related to the safety of fruits and vegetables. The authors of the report examined the use of traditional and bio-engineered methods for crop resistance to crops, integrated pest management techniques, organic farming, biological controls, and low input sustainable agriculture. They concluded that there is "little prospect that any of them will have a major impact on the total amount of pesticides required for fruit and vegetable production in the next few years." The six authors, all of whom are scientists, said their findings were based on "the lack of satisfactory alternatives, rather than any reluctance on the part of producers to eliminate pesticides whenever economically feasible." To obtain a copy of the 15-page report, call CAST at 515-292-2125.

IBA YEAR-END STATE SURVEY OUT

The Industrial Biotechnology Association's (IBA) latest survey of state government legislation on biotechnology, current as of December 20, 1990, is now off press. See page 8 of this news publication for a bird's-eye view of what the states are doing. To order a copy, call the IBA office at 202-857-0244.

NEW PUBLICATIONS

- Naturally Occurring Pest Bioregulators. Edited by Paul A. Hedin, USDA. Published by the American Chemical Society. January 1991. \$89.95. The book may be purchased from your local bookseller or by calling 1-800-ACS-5558.
- "Genetic Resources at Risk: Scientific Issues, Technologies, and Funding Policies." Proceedings of a symposium sponsored by AAAS at its annual meeting in San Francisco on January 16, 1989. Edited by P. E. McGuire and C. O. Qualset. Published by the University of California, Davis. March 1990. To obtain information about ordering copies, call 916-757-8920.
- Typex Magazine. A new international magazine dealing with bovine genetics. Written in English and French. For more information call 99.32.21.21. The FAX number is 99.32.14.17.
- "Biotechnology Business News" is a new newsletter that emphasizes events in Europe. It is published twice a month and costs \$693 per year. Discounts are available. For additional details, call Angela Zeija at Financial Times in New York City at 212-888-3469.

● "The New Framework for Biotechnology in the EEC." For information on ordering this new report, write to BCI, 1300 Old Chain Bridge Road, Suite 3, McLean, VA 22101.

UPCOMING MEETINGS

Feb. 13-14: University/Industrial Technology Transfer Conference. Orlando, Fla. For more information call L. Malone at 615-366-0679.

Feb. 14-19: AAAS '91 Annual Meeting. Washington, DC. Call J. Wrather at 202-326-6431. This meeting features a special symposium being held on Feb. 16 entitled "Advancing Biotechnology: International Issues Regarding Biosafety Policy and Practice." Alvin Young, OAB Director, and Terry Medley, Director of APHIS's Biotechnology, Biologics, and Environmental Protection unit, will be guest speakers.

Feb. 20-21: Meeting of USDA's Agricultural Biotechnology Research Advisory Committee (ABRAC). Conference Room A, 10th floor, Aerospace Bldg., 901 D Street, S.W., Washington, DC 20024. Open to the public. The meeting begins at 9 a.m. both days and adjourns at 5 p.m. on February 20 and at 3 p.m. on February 21. For more information, call Alvin Young, ABRAC Executive Secretary, at 202-447-9165.

Feb. 20-22: "Biotechnology's Look to the Future" is the theme of the 10th anniversary annual members meeting of the Industrial Biotechnology Association. N. Miami, Fla. Primarily for IBA official representatives and member company executives and their spouses. For more information call 202-857-0244.

Feb. 25-26: Impact of the EC Guidelines on Regulatory Authorities and Industry. Frankfurt, Germany. Write to Regulatory Affairs Professional Soc. 2, rue du Congres, B-1000 Brussels, Belgium; or telephone 322-217-3140.

March 7-9: International Conference of the Optimization of Plant Productivity. Cocoa Beach, Fla. Sponsored by NASA and USDA. For details call Pat Russell at the American Institute of Biological Sciences on 202-628-1500.

March 10-14: Symposium on Plant Breeding in the 1990's. Raleigh, NC. Call H. T. Stalker at 919-737-3281.

March 19-21: International Symposium on Chemical Applications of Enzyme Biotechnology. Texas A&M University. Write to A. E.

Martell, IUCCP Coordinator, Department of Chemistry, Texas A&M University, College Station, Texas 77843-3255.

March 25-27: Third PaineWebber Bio/Technology Conference. Coronado, Calif. Write to Stelios Papadopoulos, PaineWebber, P.O. Box 1406, New York, N.Y.; or call 212-713-6275.

April 9-10: Bioengineering of New Animal Food Sources. University of Connecticut, Storrs Campus. For more details, call Anne Nickerson at 203-486-3231.

April 10-11: Veterinary Advisory Committee Meeting of the Food and Drug Administration. Bethesda Holiday Inn, 8120 Wisconsin Ave., Bethesda, MD. Call Gary Stefan at 301-443-0830.

April 16-18: British Society for Plant Pathology. University of Wales, Swansea. For more details call 0248-351151; or FAX your inquiry to 0248-361429.

April 16-20: Biotechnology 2000. The First Pacific Basin Conference on Biotechnology. Bali, Indonesia. For more information, call the Oxford Business Group Limited in Oxford, England at 0865-53688. The FAX number is 0865-53805 (International Code: 01044+).

April 19-20: Plant Biotechnology and its Contribution to Plant Development and Improvement. Geneva, Switzerland. Write to Expoflore-Symposium, 8, rue du 31-Decembre. CH-1207, Geneva, Switzerland; or call 41.22.736.59.49.

April 22-24: Alltech Symposium on Biotechnology in the Feed Industry. Lexington, KY. Call Dr. Pearse Lyons at 606-885-9613.

April 22-25: Environmental Biotechnology. Ostend, Belgium. Write to Rita Peys, c/o TI-K.VIV, Desguinlei 214 B-2018, Antwerpen, Belgium; or call 32.3.216.09.31.

April 29-30: ATCC Biotechnology Patent Conference. Washington, DC. Call 301-881-2600.

BIOTECHNOLOGY NOTES is prepared by Marti Asner, public affairs specialist in USDA's Office of Agricultural Biotechnology. Suggestions for items to include in future issues are always appreciated and may be sent to USDA/OAB, Room 1001, Rosslyn Plaza East, 1621 N. Kent Street, Arlington, VA 22209; or phone 703-235-4419. The FAX number is 703-235-4429.

1990 State Legislative Initiatives in Biotechnology

